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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David Ashkenasi

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EXAMINER

CHIEM, DINH D

ART UNIT

PAPER NUMBER

2883

NOTIFICATION DATE

DELIVERY MODE

04/17/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@hahnlaw.com

akron-docket@hotmail.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,336	<b>Applicant(s)</b> ASHKENASI ET AL.	
	<b>Examiner</b> ERIN D. CHIEM	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See attachment</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on September 9, 2005 is being considered by the examiner.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the device for apparatus for producing the optical element of claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

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renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because Fig. 2 and Fig. 3 is incomprehensible due to the poor pixilation. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Election/Restrictions***

Applicant's election with traverse of Invention 2 in the reply filed on December 18, 2007 is acknowledged. The traversal is on the ground(s) that the preamble is insufficient grounds for a restriction requirement. This is not found persuasive because the language in which the examiner used in the restriction requirement were merely to align with applicant recitations, however, the claim subject matter is clearly restrictable.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-18, and 20-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Gu et al. (WO-00/79319 A1).**

Regarding claims 20-26, Gu discloses an optical element comprising an optical waveguide having a first cross-section region with a first refractive index (core), a second cross-section region with a second refractive index (cladding), and a boundary region (the boundary between the core and the cladding), wherein “at least one defined portion of the boundary region is provided with a modification” is a change in the refractive index of the material of the first or second cross-sectional region by micro damage at the cross sectional region (Page 7, lines 13-27). The result of the modification is such that the respective portion of the boundary region light is coupled out of the waveguide in a radial (core to boundary to cladding) and uniform

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diffusive manner (Page 7, line 28 to Page 8, line 2). The modification manner disposed at a plurality of defined portions of the boundary region is of an optical grating manner (Page 9, line 27- Page 11, line 8).

Regarding claims 1-18, the amendment of claim 1 (now a linking claim) changed the patentability consideration from being product claims to **product-by-process** claims in which the following criteria set forth in MPEP §2113 [R-1] provide the proper guidelines as to how to treat such claims:

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.).

Regarding claims 1-18, Gu disclose a waveguide provided with a first cross-sectional region having a first refractive index (core), a second cross-sectional area having a second refractive index (cladding) and a boundary region (boundary between core and cladding), wherein at least one defined portion of the boundary region is provided with a modification is a change in the refractive index of the material of the first or second cross-sectional region by micro damage the cross sectional region (Page 7, lines 13-27). The result of the modification is such that the respective portion of the boundary region light is coupled out of the waveguide in a radial (core to boundary to cladding) and uniform diffusive manner (Page 7, line 28 to Page 8, line 2). The modification manner disposed at a plurality of defined portions of the boundary region is of an optical grating manner (Page 9, line 27- Page 11, line 8).

**Claims 27-28, 30-31 and 33-34 rejected under 35 U.S.C. 102(b) as being anticipated by Miura et al. EP-01116965 A1).**

Regarding claims 27-28, 30-31, and 33-34 Miura discloses an a laser for microstructuring a waveguide such as the invention of claim 20, wherein the laser is constructed to emit at least one light pulse and a focusing device (Para [0028]), the focusing device is implied by disclosing the "focal point." Said laser radiation has a power density of  $10^{10}$  W/cm<sup>2</sup> or more (Para [0028]). The laser having a mounting for an optical waveguide which is constructed to hold the optical waveguide so that it is displaceable in its longitudinal direction (Para [0043]).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gu in view of Aitken et al. (US 6,573,026 B1). Gu disclose the invention of claim 27 and 28, however Gu does not disclose:**

- The laser is constructed to emit light pulses having an energy of 10 nanojoules or less.
- The focusing device is a microscope lens

Aiken disclose the light pulses emitted from the laser for writing on glass is between 1-10 nJ for the purpose of maintaining high oscillation in the order of 100MHz (col. 2, lines 1-17). It would have been obvious to one having ordinary skill in the art to recognize the low power pulse is needed to maintain the preferred high oscillation in the order of 100MHz versus pulses in the micrometers would reduce the oscillation to the kHz. **The motivation** for maintaining high oscillation such that the modification to the fiber would have a noticeable refractive index change.

Aitken disclose the focusing device is a microscope objective lens (col. 7, lines 4-12) for the purpose of adjustability. **The motivation** for using a microscope objective lens as the focusing device is the lens would be adjustable to compensate for the movement of the fiber to provide better focus.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIN CHIEM whose telephone number is (571)272-3102. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571)272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished



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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Erin Chiem/  
Examiner, Art Unit 2883

/Frank G Font/  
Supervisory Patent Examiner, Art Unit 2883

April 14, 2008  
FGF/edc